

**NETWORK DEVICE INTERFACE FOR DIGITALLY INTERFACING DATA
CHANNELS TO A CONTROLLER VIA A NETWORK**

ABSTRACT OF THE DISCLOSURE

5 The present invention provides a network device interface and method for
digitally connecting a plurality of data channels, such as sensors, actuators, and
subsystems, to a controller using a network bus. The network device interface
interprets commands and data received from the controller and polls the data channels
in accordance with these commands. Specifically, the network device interface
10 receives digital commands and data from the controller, and based on these
commands and data, communicates with the data channels to either retrieve data in
the case of a sensor or send data to activate an actuator. Data retrieved from the
sensor is then converted into digital signals and transmitted back to the controller. In
one embodiment, the bus controller sends commands and data a defined bit rate, and
15 the network device interface senses this bit rate and sends data back to the bus
controller using the defined bit rate.

CLT01/4617357v2

20